

Serial No. 10/574,145
Amdt. Dated Sep. 1, 2009
Reply to Final Office Action of July 7, 2009

REMARKS/ARGUMENTS

This Amendment is in response to the final Office action mailed July 7, 2009, which has been reviewed and carefully considered.

Entry of the present Amendment is respectfully requested. By means of the present Amendment, claim 14 has been amended to depend from claim 21. No new issues have been presented by this Amendment and entry thereof and reconsideration and allowance of the present application in view of the amendments made above and the remarks to follow are respectfully requested.

Claims 4-7, 9, 10, 12-17 and 21-25 remain in this application, where claims 1-3, 8, 11 and 18-20 had been previously canceled without prejudice. Applicant reserves the right to reintroduce subject matter deleted herein at a later time during the prosecution of this application or

continuing applications. Claims 4, 12 and 23 are independent.

Applicant gratefully acknowledges withdrawal in the final Office action, of the Examiner's earlier objections to the drawings as failing show a corrugated topography of the third layer and to claims 12 and 15 for certain informalities.

In the final Office action claim 14 was rejected under 35 U.S.C.112, second paragraph, as being indefinite for lack of an antecedent basis for the limitation "the substrate" in line 2 of claim 14. For purposes of examination, claim 14 was considered as dependent upon claim 21, which recites a third layer comprising a substrate. Applicant has, without prejudice, amended Claim 14 accordingly.

In the final Office action, claims 4, 6, 7, 9, 10, 12, 13, 17, and 21-25 are rejected under 35 U.S.C. 103(A) as being unpatentable over *Green* (US 2002/0068389) in view of

Harari et al (US 5,786,988). Further, claim 5 is rejected under 35 U.S.C. §103(a) over *Green* in view of *Harari* as applied to claim 4 and further in view of U.S. Patent No. 4,451,596 (*Wilk*). Claim 14 is rejected under 35 U.S.C. §103(a) over *Green* in view of *Harari* as applied to claim 4 and further in view of U.S. Patent Application Publication No. 2002/0163722 (*Gehring*). Claims 15 and 16 are rejected under 35 U.S.C. §103(a) over *Green* in view of *Harari* as applied to claim 4 and in further view of U.S. Patent Application Publication No. 2002/0087018 (*Celinska*). Applicant respectfully traverses and submits that claims 4-7, 9, 10, 12-17 and 21-25, as amended, are patentable over *Green*, *Wilk*, *Harari*, *Gehring* and *Celinska* for at least the following reasons.

In the final Office action, the Examiner indicates that Applicant's arguments with respect to the patentability of claims 4, 12 and 23 over *Green* in view of *Harari* had been considered but found not to be persuasive. Applicant respectfully requests reconsideration of this rejection for,

at least, the reasons set forth below.

Applicant requests reconsideration of the Examiner's determination, set forth in the first paragraph on page 3 of the final Office action, that *Harari* (in particular at col. 6, lines 25-29) renders obvious a second layer or portions comprising a series of adjoining troughs and ridges, each trough and each ridge including substantially flat portions, and wherein transitions between the troughs and ridges are curved, as recited in claims 4, 12 and 23. Applicant respectfully submits that *Harari* discloses and suggests only that grooves or other indentations may be discontinuous (col. 4, lines 2-4) and may have different shapes (col. 3, lines 59-64) with rounded cross-sectional shapes being preferred (col. 6, lines 24-28), but nowhere discloses or suggests that a groove or other indentation may vary in a series of adjoining troughs and ridges. Even assuming that the grooves or other indentations of *Harari* are properly compared to the adjoining troughs and ridges recited in claims 4, 12 and 23 (which Applicant respectfully submits,

for the reasons set forth below, is not the case), *Harari* nowhere discloses or suggests any variation in a groove or indentation itself to create adjoining troughs and ridges. Moreover, the grooves or other indentations disclosed in *Harari* may be closely spaced (col. 6, lines 21-23), but there is no disclosure or suggestion in *Harari* of their being spaced so closely as to form adjoining troughs and ridges.

A combination of the electronic components 12 and electrically conductive and flexible connectors 16 of *Green* (even characterized as "rectangular troughs and ridges") with the grooves or other indentations of *Harari*, if at all possible to arrive to the presently claimed invention, would be based on impermissible hindsight reasoning.

Green is cited in the Office action as disclosing a "... device comprising a first corrugated flexible layer 2...." Applicant respectfully submits that *Green* discloses and suggests only a "... rigid layer 2, which whilst rigid relative to the flexible layer, may have varying degrees of

rigidity..." (Para. [0039]) The layer 2 of *Green* is rigid (para. [0035], [0040]) and may be made of glass (para. [0035], [0037]). In *Green* the glass layer 2 has weakened regions 4 consisting of grooves 6 (para. [0035]). A silicon layer 2 may be used in place of the glass layer 2 (para. [0037]) Thus, the rigid layer 2 of *Green* does not disclose and cannot be said to suggest the flexible first layer in contact with a second layer having a corrugated structure which is recited in claims 4, 12 and 23. Instead, the glass layer of *Green*, which has weakened regions 4, is itself in contact with a flexible layer, i.e. mounted on a plastic or substrate (para. [0038]). This deficiency cannot be cured with reference to *Harari*. *Harari* discloses and suggests only a wafer of silicon material (col. 5, line 31), encased in a plastic which is bendable to some degree (col. 1, lines 18-22), the flexibility of which may be improved by a groove or other type of indentation having a rounded cross-sectional shape which is generally preferred over one having sharp edges (col. 6, lines 24-28). As noted above, the grooves or other indentations disclosed in *Harari* may be

closely spaced (col. 6, lines 21-23), but there is no disclosure or suggestion in *Harari* of their being spaced so closely as to form a corrugated structure in the chip 11.

Claims 4, 12 and 23 further recite "... a second layer having a corrugated structure...". In the Office action (page 4, lines 2-3) the Examiner characterizes portions 12 and 16 of *Green* as a "second corrugated layer." Reference no. 12, however, refers to electronic components formed on the upper surface 8 of the layer (para. [0037]). Reference no. 16 in *Green* refers to electrically conductive and flexible connectors 16 added to make connections between devices on adjacent islands (para. [0038]). *Green* thus discloses only a layer 2 on which electronic components 12 and electrically conductive and flexible connectors 16 are disposed, i.e. "... a plurality of contiguous islands 14, each supporting several electronic components 12, and interconnected by connectors 16..." (para. [0048]). To the extent a corrugated structure is present in *Green*, the corrugated structure is one that has been built up on the layer 2 and cannot be said to be the layer 2. Hence, a layer having a corrugated

structure is nowhere disclosed or suggested in *Green*. This deficiency cannot be cured with reference to *Harari*, which discloses and suggests only a wafer of silicon material (col. 5, line 31), encased in a plastic which is bendable to some degree (col. 1, lines 18-22).

Accordingly, it is respectfully requested that independent claims 4, 12 and 23 be allowed. In addition, it is respectfully requested that claims 5-7, 9, 10, 13-17, 21-22 and 24-25 should also be allowed at least based on their dependence from independent claims 4, 12 and 23.

In addition, Applicant denies any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Applicant reserves the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of

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the Examiner's statements are conceded.

In view of the above, it is respectfully submitted that the present application is in condition for allowance, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,

By Frank J. Keegan
Frank J. Keegan, reg. no. 50,145
Attorney for Applicant(s)
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